REMARKS/ARGUMENTS

Claims 1, 8, and 10-16 are pending in this Application.

Claims 1, 8, and 14 are currently amended. New claims 17 has been added. Applicants respectfully submit that support for the claim amendments and the newly added claims can be found throughout the specification and the drawings.

Claims 1, 8, and 10-17 are now) pending in the Application after entry of this Amendment. No new matter has been entered.

In the Office Action, claims 1, 8, and 14 stand rejected under 35 U.S.C. § 101 as allegedly lacking utility. Claims 1, 8, and 14 stand rejected under 35 U.S.C. § 112, first paragraph as allegedly failing to comply with the enablement requirement. Claims 1, 8, and 14 stand rejected under 35 U.S.C. § 112, second paragraph as allegedly being indefinite. Claims 1, 8, and 10-16 stand rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by U.S. Patent No. 6,681,383 (hereinafter "Pastor").

Claim Rejections Under 35 U.S.C. § 101

Applicants respectfully traverse the rejections to claims 1, 8, and 14 and request reconsideration and withdrawal of the rejections under 35 U.S.C. § 101.

The Office Action alleges that the disclosed invention is inoperative and therefore lacks utility.

In regard to claim 1, the Office Action alleges that completeness validation as recited in claim 1 cannot be performed both manually and automatically for the same object. Applicants, however, are unclear as to what the Office Action is saying and respectfully request clarification of the rejections or their withdrawal. If the Office Action is interpreting Applicants disclosure as being mutually exclusive, Applicants respectfully disagree. Paragraph [0028] of the Application discloses that "[a]ccording to one embodiment,...[c]orrectness and completeness validation is performed implicitly" or automatically. Paragraph [0028] of the Application further discloses that "[c]orrectness or completeness validation may also be performed explicitly." This disclosure is inclusive meaning that completeness validation can be performed both manually and automatically for the same object. Applicants fail to see that the disclosure requires

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validation to be performed "either manually or automatically" for the same object as alleged in the Office Action because validation may be performed implicitly and may also be performed explicitly for the same object at different steps of the design.

As recited in claim 1, a validation engine is configured to perform completeness validation on a validation subject "in response to a user entered command to perform validation." The validation engine is also configured to perform completeness validation automatically "when requested by the configuration management module." Thus, the validation engine as recited in claim 1 is configured to perform completeness validation manually (as interpreted) "in response to a user entered command to perform validation" and automatically "when requested by the configuration management module" for the same object. Thus, Applicants respectfully submit that the validation engine as recited in claim 1 can be configured to perform completeness validation as recited in claim 1 both manually and automatically for the same object as discussed above.

In regard to claims 8, the Office Action repeats the rejection as applied to claim 1, but directed to applying one or more correctness validation rules both manually and automatically for the same object. Yet, claim 8 recites "automatically applying one or more correctness validation rules using the processor of the computer system to the instance of the meta metadata object upon creation to confirm that the semantics of the instance of the meta metadata object complies with the one or more correctness validation rules" and "automatically applying both the one or more correctness validation rules and the one or more completeness validation rules using the processor of the computer system to the instance of the meta metadata object prior to deployment of the instance of the meta metadata object at runtime." Thus, claim 8 does not recite the manual invocation of the one or more correctness validation rules as alleged in the Office Action. Again, Applicants are unclear as to what the Office Action is saying and respectfully request clarification of the rejections or their withdrawal.

In regard to claim 14, the Office Action repeats the rejection as applied to claim 1, but directed to applying one or more completeness validation rules both manually and automatically for the same object. As recited in claim 14, a validation means is recited "for applying one or more completeness validation rules to the instance of the meta metadata object if

a user manually selects validation of the instance of the meta metadata object to confirm that data associated with the instance of the meta metadata object complies with the one or more completeness validation rules" and "for automatically applying both the one or more correctness validation rules and the one or more completeness validation rules to the instance of the meta metadata object prior to deployment of the instance of the meta metadata object at runtime." Yet, as discussed above, Applicants respectfully submit that the system can include validation means as recited in claim 14 for completeness validation as recited in claim 14 both manually and automatically for the same object as discussed above.

If Applicants have misunderstood the Office Action, Applicants respectfully request clarification.

Claim Rejections Under 35 U.S.C. § 112, First Paragraph

Applicants respectfully traverse the rejections to claims 1, 8, and 14 and request reconsideration and withdrawal of the rejections under 35 U.S.C. § 112, first paragraph as failing to comply with the enablement.

In regard to claim 1, the Office Action merely concludes that "[p]erforming completeness validation both manually and automatically for the same set of object [sic] is unable to be implemented." Applicants respectfully disagree because Applicants describe how completeness validation is performed both manually and automatically for the same object in the Specification as discussed above.

In regard to claim 8, Applicants respectfully refer to the claim language and the above discussion in that claim 8 recites automatically applying correctness rules at either creation or prior to deployment.

In regard to claim 14, Applicants respectfully disagree because Applicants describe how the application of correctness rules is performed both manually and automatically for the same object in the Specification as discussed above.

If Applicants have misunderstood the Office Action, Applicants respectfully request clarification.

Claim Rejections Under 35 U.S.C. § 112, Second Paragraph

Applicants respectfully traverse the rejections to claims 1, 8, and 14 and request reconsideration and withdrawal of the rejections under 35 U.S.C. § 112, second paragraph as being indefinite for at least the reasons given above. If Applicants have misunderstood the Office Action, Applicants respectfully request clarification.

Claim Rejections Under 35 U.S. C. § 102(e)

Applicants respectfully traverse the rejections to claims 1, 8, and 10-16 and request reconsideration and withdrawal of the rejections under 35 U.S.C. § 102(e) based on Pastor.

Applicants respectfully note that to anticipate a pending claim, a prior art reference must provide, either expressly or inherently, each and every limitation of the pending claim. Moreover, the prior art reference must show the identical invention in as complete detail as is contained in the claims with the elements arranged as required by the claims. (M.P.E.P. § 2131).

The Office Action alleges that Pastor teaches or suggests all of the claim limitations of claims 1, 8, and 10-16. However, based on the arguments presented below, Applicants respectfully submit that Pastor fails to teach or suggest one or more of the claim limitations recited in each of claims 1, 8, and 10-16.

Review of the Application

As discussed in the Application, systems and methods are provided for implementing metadata validation. (Application: Paragraph [0019]). Metadata is information/data about information/data. Metadata validation is the validation of metadata in a data repository, such as a database. The subject of metadata validation is the meta metadata object on which a validation rule is defined. (Application: Paragraph [0021]).

In general, the following terms are used to describe meta metadata objects: MetaClass, MetaCollection, MetaAttribute, MetaAssociation, MetaAssociationEnd. A MetaClass is an object used to represent a model class. A MetaCollection is a concept used to

represent a collection of MetaClass objects. A MetaAttribute is an object used to represent a

single attribute of a MetaClass object. A MetaAssociation is an object used to represent an

association between two MetaClass objects. A MetaAssociationEnd is an object used to

represent one end of a MetaAssociation object.

In one example, if a validation rule enforces that all business process names start

with 'BP', then the rule is on the meta metadata object representing an attribute (or

MetaAttribute) for attribute 'name' in class BusinessProcess. As such, a validation rule is defined

on the meta definition for an attribute or the meta metadata object [MetaAttribute]. The

described validation framework invokes an attribute rule only when the attribute is set for a

given object. (Application: Paragraph [0022]).

In various embodiments, the metadata driven validation process implements

several validation types on different validation units. In one aspect, two validation rule types are

provided - correctness and completeness types. The correctness validation rule type ensures that

a validation unit satisfies all semantic rules defined for it. The completeness validation rule type

ensures that a validation unit contains all the necessary data and is ready for further use. In one

aspect, at design time, only correctness type validation is performed. Thus, the present invention

advantageously allows for incomplete objects to be created at design time. The developer,

however, in this case may opt to perform completeness validation at any time. In general, a

developer may opt to perform completeness and/or correctness validation at any time

independent of deployment processing. In another aspect, full validation (e.g., completeness and

correctness) is automatically performed on the objects prior to deployment processing.

(Application: Paragraph [0009]).

Claim 1

Applicants respectfully submit that Pastor fails to teach or suggest each and every

claim limitation recited in amended claim 1. As recited in amended claim 1, a database is

configured to store objects corresponding to an object model. These may be considered the loan

class, the book class, the librarian class of Pastor. As recited in amended claim 1, the database is

also configured to store metadata objects describing aspects of the object model during design of

the object model. It is this metadata (data about data) that is being validated as recited in amended claim 1 and not the objects corresponding to the object model that would be the loan class, the book class, the librarian class of Pastor.

Pastor does not disclose or suggest that an object describing aspects of the object model 300, such as these recited in amended claim 1 of:

metadata objects including

information used to represent a collection of objects corresponding to the object model representing model classes,

an object used to represent a single attribute of an object corresponding to the object model representing a model class,

an object used to represent an association between two objects corresponding to the object model representing model classes, or

an object used to represent one end of an association between two objects corresponding to the object model representing model classes

Therefore, Applicants respectfully submit that Pastor fails to validate metadata for the loan class, the book class, the librarian class of Pastor to disclose or suggest a validation engine as recited in amended claim 1 for validating the metadata objects stored in the database by confirming the metadata objects comply with one or more validation rules, wherein said validation engine is configured to:

perform completeness validation on the deployable collection in response to a user entered command to perform validation on the deployable collection as a validation subject to confirm that data associated with the validation subject complies with the validation rules,

automatically perform correctness validation on the deployable collection when the validation subject is created or updated to confirm that the semantics of the validation subject complies with the validation rules, and

automatically perform completeness and correctness validation on the deployable collection when requested by the configuration management module.

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Moreover, the Office Action refers to the correctness/completeness checks that are performed in Pastor in Col. 21, Col, 22, and Col. 23. Yet, Pastor discloses that these are performed on the "Conceptual model" which is substantially different from validating metadata objects (e.g., different from the objects that correspond to an object model) that describe aspects of an object model (e.g., the Conceptual model of Pastor) stored in the database by confirming the metadata objects comply with one or more validation rules.

This difference is easily seen in the example of where, if a validation rule enforces that all business process names start with 'BP', then the rule is on a metadata object representing an attribute (or MetaAttribute) for attribute 'name' in an object 'BusinessProcess' that corresponds to the object model. As such, a validation rule is defined on the meta definition for an attribute or the meta metadata object [MetaAttribute], rather than the object corresponding to the object model itself. (Application: Paragraph [0022]).

Accordingly, Applicants respectfully submit that Pastor fails to disclose each and every claim limitation as recited in amended claim 1. Applicants further respectfully submit that none of the cited references cure the above-discussed deficiencies of Pastor, and thus, amended claim 1 is allowable over the cited references.

Applicants respectfully submit that independent claims 8 and 14 are allowable for at least a similar rationale as discussed above for the allowability of claim 1, and others. Applicants respectfully submit that the dependent claims that depend directly and/or indirectly from independent claims 8 and 14 respectively, are also allowable for at least a similar rationale as discussed above for the allowability of the independent claims. Applicants further respectfully submit that the dependent claims recite additional features that make the dependent claims allowable for additional reasons.

Unless otherwise specified, amendments to the claims are made for the purposes of clarity, and are not intended to alter the scope of the claims or limit any equivalents thereof.

While Applicants do not necessarily agree with the prior art rejections set forth in the Office Action, these amendments may be made to expedite issuance of the Application. Applicants reserve the right to pursue claims to subject matter similar to those pending before the present Amendment in co-pending or subsequent applications.

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CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 925-472-5000.

Respectfully submitted,

/Sean F. Parmenter, Reg. No. 53,437/
Sean F. Parmenter
Reg. No. 53,437

TOWNSEND and TOWNSEND and CREW LLP
Two Embarcadero Center, Eighth Floor
San Francisco, California 94111-3834
Tel: 925-472-5000
Fax: 415-576-0300
SFP:lls
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